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Pitney Bowes Inc.
Intellectual Property & Technology Law Department
35 Waterview Drive
P.O. Box 3000
Shelton, CT 06484

EXAMINER	
ZHENG, JACKY X	

ART UNIT	PAPER NUMBER
2625	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/720,292	CORDERY ET AL.	
	Examiner	Art Unit	
	JACKY X. ZHENG	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *May 14, 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-12,14-19 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-12,14-19 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *November 24, 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. This is an office action based on a request for continued examination under 37 CFR 1.114 filed on May 14, 2010.

2. Claims 1-2 and 10-11 have been amended.

3. Claims 3, 13 and 20-25 have been previously cancelled.

4. Claim 26 is newly added for consideration.

5. Claims 1-2, 4-12, 14-19 and 26 are currently pending.

6. The rejection under 35 USC 112, first paragraph with regard to the independent claims 1 and (along with corresponding dependent claims) has been withdrawn in view of claim amendments filed on May 14, 2010.

Request for Continued Examination (RCE)

7. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 14, 2010 has been entered.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 1-2, 4-5, 9-11, 14-15 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. (U.S. Pub. No. 2004/0105569 A1), and further in view of Chang et al. (U.S. Patent No. 7,154,560 B1).

With regard to claim 1, the claim is drawn to a method of determining whether a printed-image-under-examination (PIUE) is a copy of an original printed image, the method comprising:

(a) scanning the PIUE to generate scanned image data, the scanned image data comprising pixel data, the pixel data comprising gray scale values and representing the PIUE as a set of scanning pixels *(See Sharma et al., i.e. Figure 1, Block 100; paragraph [0053], disclose an representation of the original in form of digitized signal; in addition, obtaining image data in digitized form, such as via scanning of the original image is well-known to one of ordinary skill in the art at the time of invention)*;

(b) forming a plurality of data blocks from the scanned image data, each data block consisting of pixel data which corresponds to a respective region of the PIUE *(See Sharma et al., i.e. Figure 6, Blocks 600, 602 & Paragraph [0091], disclose "the detector segments the target image into blocks")*;

(c) transforming the pixel data in at least some of the data blocks to obtain transform domain data by applying at least *one of* a Fourier transform, a fast Fourier transform, a discrete cosine transform (DCT) and a wavelet transform to the pixel data in the at least some of the data blocks to obtain the transform domain data *(See Sharma et al., i.e. Figure 6, Block 604 & Paragraph [0091] discloses that after segmenting the target image into blocks, and "then performs a 2-dimensional fast Fourier Transform (2D FFT) on several blocks"; Paragraphs*

[0091] discloses performing a 2-dimensional Fast Fourier Transform to the image blocks; Paragraph [0073] also discloses the commonly known transform types, in both spatial or temporal domain);

(d) applying a watermark detecting operation to the transform domain data for respective ones of the data blocks to generate recovered watermark data *(See <u>Sharma et al.</u>, i.e. Figure 6, Block 606 & Paragraph [0092], discloses "... the log polar coordinate system has a rotation axis, representing the angle θ, and a scale axis. Inspecting the transformed data at this stage, one can see the orientation pattern of the watermark begin to be distinguishable from the noise component" as broadly-claimed "to generate recovered watermark data"; in addition, i.e. in Paragraph [037] disclose "a reader that extracts a watermark message from the combined signal"; and in Fig. 22, also discloses a block diagram of watermark decoding process for a wavelet domain watermark;)*; and

(e) determining a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data blocks *(See <u>Sharma et al.</u>, i.e. Fig. 4, step 404 and Paragraph [0086], discloses "First, the detector transforms the image data to another domain, namely the spatial frequency domain, and then perform a series of correlation or other detection operations 404"; and in Figure 6, Block 610, 620 & in Paragraph [0093], "performs a correlation between the transformed image block and the transformed orientation pattern 612"; additionally, i.e. Paragraphs [0188]-[0206], discloses the usages of "orientation vectors" and extraction of luminance sample data in correlation process; also see Paragraph [0081] with regards to selectively increase and decrease the signal strength of the watermark signal to make the watermark imperceptible to an ordinary observer; also see the discussions of Chang below).*

Sharma et al., i.e. in Fig. 4, step 404 and Paragraph [0086], discloses that "the detector transforms the image data to another domain, namely the spatial frequency domain, and then perform a series of correlation or other detection operations 404", and the disclosed correlation operations match the orientation pattern with the target image data to detect the presence of the watermark and its orientation parameters (e.g. translation, scale, rotation, and differential scale relative to its original orientation), in order to re-orients the image data based on one or more of the orientation parameters 408. Although Sharma et al. also disclose, inter alia, teachings of extraction of luminance sample data relating to the correlation process, it merely lacks in disclosing *explicitly* the broadly-claimed limitation of "determining a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data block".

However, Chang et al. also disclose an invention relating to watermarking of digital image data (i.e. paper document, video data, etc.), such as process of watermark embedding with discrete cosine transformation (DCT) *(see Chang et al. i.e. abstract & col. 1, ll 41-47).* Chang et al. further disclose converting the watermarked image into gray scale image *(see Chang et al., i.e. in Fig. 3, and in col. 2, ll 40-49)* and specifically "ΔL is the scaling factor which controls the watermark strength" *(see Chang et al., i.e. col. 2, ll 50-63).* Most importantly, Chang et al. discloses, explicitly that "Equation 4 approximates the nonlinear function according to Equation 2, by linear functions block by block. The scaled watermark strength depends on the mean and variance of the image block. For each image block, the higher the mean (**i.e. the brighter**), and the higher the variance (i.e. the more cluttered), the greater the required strength of the watermark for maintaining consistent visibility of the watermark" *(see Chang et al., i.e. in col. 3,*

ll 36-42) and "The means and variance of the input image can be derived from the DCT coefficients" *(in same column, ll 45-58),* which read on the broadly-claimed limitation of " determining a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data blocks ".

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Sharma et al. to include the limitations discussed above and taught by Chang et al. as the cited prior arts are at least considered to be analogous arts if not also in the same field of endeavor relating to watermark processing. Further, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. by the teachings of Chang et al., and to incorporate teachings discussed above and taught by Chang et al., thereby to increase the robustness of the watermarks *(i.e. Chang et al., in col. 1, ll 15-37)* and maintaining consistent visibility of the watermark *(i.e. Chang et al., in col. 3, ll 42).*

With regard to claim 2, the claim is drawn to the method according to claim 1, further comprising: (f) determining that the PIUE is a copy of the original printed image if a strength of a brightness level of the recovered watermark data is negatively correlated with the brightness of said data blocks *(in addition to <u>Sharma et al.</u>, i.e. Paragraphs [0201], "one figure of merits is the degree of correlation between a known watermark signal attribute and ..." and "another merit is the strength of the watermark signal"; as discussed above, in <u>Chang et al.</u>, i.e. in col. 3, ll 39-42, disclose the higher the mean (or the brighter), the greater required strength of the watermark for maintaining consistent visibility of the watermark).*

With regard to claims 9, the claim is drawn to the method according to claim 1, wherein at least one the regions of the PIUE overlap with one or more other regions of the PIUE to which the data blocks correspond are overlapping with each other *(See Sharma et al., i.e. Paragraph [0145], discloses a pattern of overlapping blocks).*

With regard to claim 10, the claim is drawn to a method of determining whether a printed-image-under-examination (PIUE) is a copy of an original printed image, the original printed image including a watermark applied to the image using a plurality of wave vectors, the method comprising:

(a) scanning the PIUE to generate scanned image data, the scanned image data comprising pixel data, the pixel data comprising gray scale values and representing the PIUE as a set of scanning pixels *(See Sharma et al., i.e. Figure 1, Block 100; paragraph [0053], disclose an representation of the original in form of digitized signal; in addition, obtaining image data in digitized form, such as via scanning of the original image is well-known to one of ordinary skill in the art at the time of invention)*;

(b) forming a plurality of data blocks from the scanned image data, each data block consisting of pixel data which corresponds to a respective region of the PIUE *(See Sharma et al., i.e. Figure 6, Blocks 600, 602 & Paragraph [0091], disclose "the detector segments the target image into blocks")*;

(c) transforming the pixel data in at least some of the data blocks to obtain transform domain data by applying at least *one of* a Fourier transform, a fast Fourier transform, a discrete cosine transform (DCT) and a wavelet transform to the pixel data in the at least some of the data blocks to obtain the transform domain data *(See Sharma et al., i.e. Figure 6, Block 604 &*

Paragraph [0091] discloses that after segmenting the target image into blocks, and "then performs a 2-dimensional fast Fourier Transform (2D FFT) on several blocks"; Paragraphs [0091] discloses performing a 2-dimensional Fast Fourier Transform to the image blocks; Paragraph [0073] also discloses the commonly known transform types, in both spatial or temporal domain);

(d) applying a watermark detecting operation to the transform domain data for respective ones of the data blocks to generate recovered watermark data *(See Sharma et al., i.e. Figure 6, Block 606 & Paragraph [0092], discloses "... the log polar coordinate system has a rotation axis, representing the angle θ, and a scale axis. Inspecting the transformed data at this stage, one can see the orientation pattern of the watermark begin to be distinguishable from the noise component" as broadly-claimed "to generate recovered watermark data"; in addition, i.e. in Paragraph [037] disclose "a reader that extracts a watermark message from the combined signal"; and in Fig. 22, also discloses a block diagram of watermark decoding process for a wavelet domain watermark;)*; and

(e) determining *at least one* of (i) a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data blocks, and (ii) a correlation between the recovered watermark data and the wave vectors *(See Sharma et al., i.e. Fig. 4, step 404 and Paragraph [0086], discloses "First, the detector transforms the image data to another domain, namely the spatial frequency domain, and then perform a series of correlation or other detection operations 404"; and in Figure 6, Block 610, 620 & in Paragraph [0093], "performs a correlation between the transformed image block and the transformed orientation pattern 612"; additionally, i.e. Paragraphs [0188]-[0206], discloses the usages of "orientation vectors" and*

extraction of luminance sample data in correlation process; also see Paragraph [0081] with regards to selectively increase and decrease the signal strength of the watermark signal to make the watermark imperceptible to an ordinary observer; also see the discussions of Chang below).

Sharma et al., i.e. in Fig. 4, step 404 and Paragraph [0086], discloses that "the detector transforms the image data to another domain, namely the spatial frequency domain, and then perform a series of correlation or other detection operations 404", and the disclosed correlation operations match the orientation pattern with the target image data to detect the presence of the watermark and its orientation parameters (e.g. translation, scale, rotation, and differential scale relative to its original orientation), in order to re-orients the image data based on one or more of the orientation parameters 408. Although Sharma et al. also disclose, inter alia, teachings of extraction of luminance sample data relating to the correlation process, it merely lacks in disclosing *explicitly* the broadly-claimed limitation of "determining a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data block".

However, Chang et al. also disclose an invention relating to watermarking of digital image data (i.e. paper document, video data, etc.), such as process of watermark embedding with discrete cosine transformation (DCT) *(see Chang et al. i.e. abstract & col. 1, ll 41-47).* Chang et al. further disclose converting the watermarked image into gray scale image *(see Chang et al., i.e. in Fig. 3, and in col. 2, ll 40-49)* and specifically "ΔL is the scaling factor which controls the watermark strength" *(see Chang et al., i.e. col. 2, ll 50-63).* Most importantly, Chang et al. discloses, explicitly that "Equation 4 approximates the nonlinear function according to Equation 2, by linear functions block by block. The scaled watermark strength depends on the mean and

variance of the image block. For each image block, the higher the mean (**i.e. the brighter**), and the higher the variance (i.e. the more cluttered), the greater the required strength of the watermark for maintaining consistent visibility of the watermark" *(see Chang et al., i.e. in col. 3, ll 36-42)* and "The means and variance of the input image can be derived from the DCT coefficients" *(in same column, ll 45-58),* which read on the broadly-claimed limitation of " determining a correlation between the recovered watermark data for at least some of the data blocks and a brightness of said data blocks ".

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Sharma et al. to include the limitations discussed above and taught by Chang et al. as the cited prior arts are at least considered to be analogous arts if not also in the same field of endeavor relating to watermark processing. Further, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. by the teachings of Chang et al., and to incorporate teachings discussed above and taught by Chang et al., thereby to increase the robustness of the watermarks *(i.e. Chang et al., in col. 1, ll 15-37)* and maintaining consistent visibility of the watermark *(i.e. Chang et al., in col. 3, ll 42).*

With regard to claim 11, the claim is drawn to the method according to claim 10, further comprising: (f) determining that the PIUE is a copy of the original printed image if a signal level of the recovered watermark data decreases with the brightness of said data blocks *(as discussed above, in Chang et al., i.e. in col. 3, ll 39-42, disclose the higher the mean (or the brighter), the greater required strength of the watermark for maintaining consistent visibility of the*

watermark; in another words, if less brightness, the less required strength of the watermark for maintaining consistent visibility of the watermark).

With regard to claims 4-5 and 14-15, claims 4 and 14 are drawn to the method according to claims 1 and 10 respectively, wherein the watermark detecting operation includes multiplying the transform domain data with a detecting function; and claims 5 and 15 are drawn to the method according to claims 4 and 15 respectively, wherein the detecting function is e^{ikr}, where k and r are phase space indices applicable to the transform domain data *(See Sharma et al., i.e. Paragraph [0056], for the similar watermarking function disclosed therein).*

With regard to claim 19, the claim is drawn to the method according to claim 10, wherein at least one the regions of the PIUE overlap with one or more other regions of the PIUE to which the data blocks correspond are overlapping with each other *(See Sharma et al., i.e. Paragraph [0145], discloses a pattern of overlapping blocks).*

10. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. and Chang et al., and further in view of Uchida et al. (U.S. Patent No. 4,881,268).

With regard to claim 12, the claim is drawn to the method according to claim 10, further comprising: (f) determining that the PIUE is a copy of the original printed image if a signal level of the recovered watermark data is increases correlated with wavelengths of the wave vectors.

The teachings of Sharma et al. and Chang et al. do not explicitly disclose the claimed limitation of "if a signal level of the recovered watermark data is increases correlated with wavelengths of the wave vectors".

However, Uchida et al. disclose an invention relates to a paper money discriminator for identifying the type of a bank note by detecting colors thereof from reflected or transmitted light obtained by irradiating the bank note *(see Uchida et al, i.e. abstract).* More specifically, Uchida et al. discloses, i.e. in Fig. 8, which shows the differences between output signals in relation to different wavelengths, the level of the output signal obtained at the watermark portion S' of one of the real bank notes S tends to increases as the wavelength increases *(see Uchida et al, i.e. col. 7, ll 16-20).* Also referring to Fig. 8 and Uchida et al., the real bank note (S) is the one with the output signal increases as the wavelength increase.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Sharma et al. and Chang et al. to include the limitation discussed above and also taught by Uchida et al. as the cited prior arts are at least considered to be analogous arts. Further, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. and Chang et al. by the teachings of Uchida et al., and to incorporate the limitation discussed above and taught by Uchida et al., thereby an authentic document can be identified by observing the output signal under with varying wavelengths.

11. **Claims 6-7 and 16-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. and Chang et al., and further in view of Murakami (U.S. Patent No. 7.065,237).

With regard to claims 6-7 and 16-17, the claims further require the limitations of applying "an envelope function" to the transform domain data, and further applying "an inverse transform" to the results of the step mentioned above.

Sharma et al. do not *explicitly* disclose the limitation of applying "envelope function" to the image signal in transform domain, yielding a result and further applying "an inverse transform" to the result.

However, Murakami discloses an invention relates to an image processing apparatus and method for embedding a digital watermark in a digital image and an image processing apparatus and method for extracting the embedded watermark from a digital image. More specifically, discloses the limitation of having "an envelope ring pattern generator" *(See Murakami, i.e. Figure 9, block 902)* for embedding an envelope ring pattern in a Fourier amplitude spectrum on basis of the Fourier amplitude generated by Fourier Transformer *(i.e. Figure 9, block 901);* An "Inverse Fourier Transformer"*(i.e. Figure 9, block 904)* is also disclosed for applying the "inverse Fourier Transform" to the previous results *(For details, column 8, line 47 – column 9, line 60).*

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. to include the limitation of applying "envelope function" to the image signal in transform domain, yielding an result and further applying "an inverse transform" to the result taught by Murakami. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. by the teachings of Murakami to include the limitation of applying so-called "envelope function" to the image signal in transform domain, yielding an result and further applying "an inverse transform" to the result taught by Murakami, in order to obtain an image with digital watermark information embedded to be "imperceptible or nearly imperceptible to the human eye…" *(See Murakami, i.e. column 9, lines 36-37).*

12. **Claims 8 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. , Chang et al. for claims discussed above, and further in view of Rhoads et al. (U.S. Pub. No. 2003/0215112).

With regard to claims 8 and 18, the claims are drawn to the method according to claim 1 and claim 10 respectively, wherein the PIUE is part of postal indicia.

Sharma et al. do not *explicitly* disclose the limitation of the original printed image being postal indicia.

However, Rhoads et al. disclose the limitation of the original printed image being postal indicia *(see Rhoads et al., i.e. Paragraph [0118])*.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. to include the limitation of the original printed image being a postal indicia taught by Rhoads et al. as the prior arts are at least related to the areas of watermark processing. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Sharma et al. by the teachings of Rhoads et al. to add the limitation of the original printed image being a postal indicia taught by Rhoads et al. so that identification or authentication information can be embedded therein for security purposes.

13. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma et al. , Chang et al. for claims discussed above, and further in view of Suhara et al. (U.S. Pub. No. 2002/0138974 A1).

With regard to claim 26, the claim is drawn to the method according to claim 1, wherein the brightness of said data blocks is determined by calculating an average gray scale value of said data blocks.

Although Chang et al. disclose specifically "the mean and variance of the image block" (i.e. in col. 3, ll 37-40), the teachings of Sharma et al. and Chang et al. do not explicitly disclose the claimed limitation of "the brightness of said data blocks is determined by calculating an average gray scale value of said data blocks".

However, Suhara et al. disclose an invention relates to an image taking system (i.e. camera) and more particularly to the art of taking images with stable brightness (i.e. see Suhara et al., i.e. abstract). More specifically, in Suhara et al., discloses explicitly "a brightness detecting portion", which "detect, as said brightness, an average of respective gray-scale values of respective picture elements of said portion of the image of the object taken by the camera" *(see Suhara et al., i.e. claim 8; also see the details in paragraphs [0033], [0099], [0110).*

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Sharma et al. and Chang et al. to include the claimed limitation of "the brightness of said data blocks is determined by calculating an average gray scale value of said data blocks" taught by Suhara et al. as the cited prior arts are at least considered to be analogous arts if not also in the same field of endeavor relating to printing art. Further, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Sharma et al. and Chang et al. by the teachings of Suhara et al., and to incorporate the claimed limitation of "the brightness of said data blocks is determined by calculating an average gray scale value of said data blocks" taught by Suhara et al., thereby in an

image taking system, by calculating the brightness, "a control-parameter varying portion which varies, based on the brightness detected by the brightness detecting portion, at least one control parameter of the brightness controlling device so that a brightness of at least a portion of an image taken by the camera is equal to a preset brightness" *(see Suhara et al., i.e. abstract)*

Response to Arguments

14. Applicant's arguments with respect to claims 1-2, 4-12, 14-19 and 26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Rhoads et al. (U.S. Pub. No. 2003/0053653) disclose a watermark system includes an embedder, detector and reader.

B. Sharma et al. (U.S. Pub. No. 2003/0026453) disclose an invention relates to digital watermarking.

C. Wendt (U.S. Pub. No. 2002/0126870) discloses a method of block-based watermarking by detecting the location of the watermark.

D. Macy et al. (U.S. Patent No. 6,823,455) disclose a method for robust watermarking of content.

E. Tsai et al. (U.S. Patent No. 6,993,151) disclose a watermark embedding and extracting method and embedding hardware structure used in image compression system.

F. Echizen et al. (U.S. Patent No. 6,728,408) disclose a watermark embedding method and system, specifically detecting the position changes of the pixel in the content.

G. Rhoads et al. (U.S. Patent No. 6,804,379) disclose a digital watermarks and postage.

H. Lee et al. (U.S. Pub. No. 2004/0030899) disclose a method and an apparatus of inserting or detecting digital watermark.

I. Nakamura et al. (U.S. Patent No. 6,185,312) disclose a method and an apparatus for embedding and reading watermarking-information in digital form, also discloses block-based implementation.

J. Yoshiura et al. (U.S. Patent No. 6,711,276) discloses a control method and apparatus for embedding information data.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The examiner can normally be reached on Monday - Friday, 9:00 am - 5:00 pm, alt. Friday Off.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark K. Zimmerman can be reached on (571) 272-7653. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacky X. Zheng/
Examiner, Art Unit: 2625
May 20, 2010

/Mark K Zimmerman/
Supervisory Patent Examiner, Art Unit 2625